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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,986	12/27/2006	Apostolos Katefidis	OST-061078	9024
22876 7590 04/16/2008 FACTOR & LAKE, LTD 1327 W. WASHINGTON BLVD. SUITE 5G/H CHICAGO, IL 60607				
EXAMINER				
LU, JIPING				
ART UNIT		PAPER NUMBER		
3749				
MAIL DATE		DELIVERY MODE		
04/16/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/576,986

**Applicant(s)**

KATEFIDIS ET AL.

**Examiner**

Jiping Lu

**Art Unit**

3749

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17-18 recite the limitation "the control system" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-4, 7-10, 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru (EP 0568822 A2) in view of Huh (KR 2003075939A).

Ishimaru shows a system and a method for drying objects comprising a drying cubicle 6, a heating device 10 which heats the hot air 26a introduced into the drying cubicle 6, wherein the heating device includes at least high temperature fuel cell 10 the process waste air 19 from which can be fed to the drying cubicle 6 as hot air. There is a control system 47 to operate the fuel cell 10 and supplying electrical energy to other consumers (see Fig. 2). However, Ishimaru does not expressly teach the concept of feeding process waste air of the fuel cell directly to a drying

cubicle in which the objects are exposed to hot air and a control system which operates the fuel cell regardless of the electrical energy generated thereby that the thermal energy generated thereby meets the requirement in the drying cubicle. Huh et al. shows a system for drying objects comprising a drying cubicle 20 including at least one section in which the objects are exposed to hot air; a heating device 10 which heats the hot air introduced into the drying cubicle 20, wherein the heating device includes at least one high temperature fuel cell the process waste air 30 from which can be fed to the drying cubicle 20 as hot air; there is provided a control system 40 which so operates the high temperature fuel cell regardless of the electrical energy generated thereby that thermal energy generated thereby meets the requirement in the drying cubicle 20. Therefore, it would have been obvious to one skill in the art at the time the invention was made to modify the system of Ishimaru to direct or feed process waste air of the fuel cell directly to a drying cubicle and to control the supplying of the thermal energy regardless of the electrical energy generated as taught by the Huh patent in order to recover waste heat and to more effectively reduce the loss of energy. As for the limitations in claims 2-4 and 15-18, they are viewed as functional or intended use limitations. As MPEP 2114 states, “[a] claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim”. In this case, the limitations above do not add any structural limitations to the claim and the system of Ishimaru as modified by Huh et al. discloses all the structural limitations. In particular, claims 15-18 merely call for the control system uses the electrical energy “for” infrared radiators or electrical drives. In the claims, there is no structure provide “for” such intended uses. Therefore, it is deemed to be merely an

intended use of the electrical energy “for” infrared radiators or electrical drives in Ishimaru patent.

5. Claims 5, 6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru (EP 0568822 A2) in view of Huh (KR 2003075939A) as applied to claims 5, 7 as above and further in view of Thompson (U.S. Pat. 5,983,521).

The system of Ishimaru as modified by Huh et al. as above includes all that is recited in claims 5, 6, 11 and 12 except for a post combustion device for purify the hydrocarbon and waste heat recovery system. Thompson shows a post combustion device 12 for purifying the hydrocarbon and waste heat recovery system 44, 46 same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the system and method of Ishimaru to include a post-combustion device or afterburner and waste heat recovery as taught by Thompson in order to improve exhaust air quality.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEVEN B. MCALLISTER can be reached on 571 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jiping Lu/  
Primary Examiner  
Art Unit 3749

J. L.